Third, using the geographic areas for licenses we suggest (see discussion below), there will be as many as 1,461 licenses nationwide (3 x 487). This is an ample number to provide a great diversity of serving arrangements and innovative approaches and to offer prospective service providers of all sizes a good opportunity to obtain a license.

B. Size Of Geographic Area

Telesis supports a service area which is tied to PCS economics and promotes maximum diversity and innovation among providers. For the reasons outlined below, Telesis supports the greatest number of PCS service areas outlined in the Commission's options. (NPRM, Para. 60.) The 487 Rand McNally Basic Trading Areas are the optimal choices for geographic scope of PCS licenses.

The "Basic Trading Area" is defined by Rand McNally as an area surrounding at least one Basic Trading Center--a city which serves as a center for purchases for the surrounding area as well as providing specialized services, such as medical care, entertainment, higher education and a daily newspaper. "In some cases, Basic Trading Areas have two or more Basic Trading Centers, because residents can readily shop at either one." See Rand McNally, 1992 Commercial Atlas and Marketing Guide at 36.

This definition provides a sound basis upon which to design PCS serving areas, which should be derived from natural communities of interest. The boundaries were determined "after

an intensive study of such factors as physiography, population distribution, newspaper circulation, economic activities, highway facilities, railroad service, suburban transportation, and field reports of experienced sales analysts." Id. at 39. Both the transportation elements and the economic activities will likely be critical drivers of the coverage area PCS subscribers will desire from system providers.

The economics of PCS support smaller rather than larger coverage areas. The relatively short wavelengths of radio signals in the 1.8 GHz band result in small cell radii and, consequently, many cells are needed to cover a given geographic area. In order to cover huge areas involving multiple urban areas or even states, a licensee would have to install thousands of cell sites to provide complete coverage. Such a system would be prohibitively expensive, because of the operating and capital costs which are directly related to the number of cells, including towers, equipment, installation, engineering, maintenance, real estate, permits, and backhaul connections.

If serving areas were to be as large as the 47 Major Trading Areas proposed as an alternative, a licensee's most likely approach to deployment would be to break the large areas into metropolitan hubs which could be served by local systems. These metropolitan hubs would track closely to the Basic Trading Areas because the vast majority of subscriber uses would be within that area. This has been the U.K. PCS

experience; the "national" licenses are beginning to build out only in those urban/suburban areas where there will be sufficient network usage to support the infrastructure. See "U. K. PCN Progress/Prognosis," MicroCell News, page 7, October 10, 1992.

The issue of coverage and build-out requirements is clearly linked to the size of the serving area. As discussed in Section IV on license requirements, Telesis believes that it is important to the rapid deployment of PCS to require an aggressive build-out in return for the privilege of obtaining scarce spectrum. A minimum coverage requirement based on the population for a Basic Trading Area goes much further toward achieving ubiquitous coverage than a similar requirement for a much larger serving area, where the population will be heavily concentrated in a small portion or single city of the total area. The larger the serving area, the more likely that smaller metropolitan areas would be put on hold, while the megalicensees build out in the largest cities first. By making available individual licenses for all Basic Trading Areas, companies interested in serving smaller cities would not be blocked out of the market.

For the same reasons, Basic Trading Areas are also preferable to LATAs as license areas, because LATAs are larger than Basic Trading Areas (there are 194 LATAs nationwide, compared to 487 Basic Trading Areas). Furthermore, LATAs are local wireline service areas created as part of divestiture of

the BOCs from AT&T. They were not designed with wireless service in mind and are not suitable for PCS license use.

The most compelling reason for a large number of PCS serving areas is the diversity and pluralism which will result from increasing the potential number of total players in the industry. Maximum innovation and experimentation will follow from encouraging a multitude of participants throughout the country. We recognize that there are also some benefits from larger service areas (e.g., a few economies of scale in marketing and overhead), but we believe these are outweighed by the benefits of diversity. In the embryonic PCS industry, with many unanswered questions about demand, service capabilities and cost, consumers would be better served by creating more rather than fewer opportunities for potential service providers to try different approaches in different markets.

There should be no prohibition on the number of total licenses a single provider is eligible to receive in different market areas. In this way, the Commission will permit a multitude of visions to be implemented. Potential licenses who want to serve larger market areas to leverage infrastructure will be free to pursue such a strategy, just as cellular and paging licensees have created regional clusters. Unique geographic patterns may emerge, based upon factors unique to a specific provider: e.g., gas pipeline routes, travel patterns of rental-car customers, or dispersed corporate subsidiaries. By keeping the building blocks small, the Commission is most

likely to meet the widest range of applications, including the opportunity to license a single hub.

In analyzing the trade-offs to be made, the Commission suggests that larger service areas simplify the coordination of technical standards, reduce the cost of interference coordination between PCS licensees, and facilitate regional and nationwide roaming. (NPRM, Para. 58.) However, our experience in the cellular industry indicates that none of these issues is a significant impediment to service implementation.

As we propose below, Section VI.D., the PCS licensees should be required to reach agreement on technical standards before providing service. They can work together with equipment manufacturers through national standards bodies; they will have the experience of the cellular industry to build upon in setting standards and delivering roaming capability to their subscribers. The enormous strides which have been made in the cellular industry in creating the IS-41 standard to provide for the transfer of information and calls between different systems will provide PCS licensees with a starting point far in advance of where cellular began. Furthermore, the future direction of intersystem coordination rests with the network intelligence needed to permit all communications networks to exchange information in creating a truly seamless personal number concept, rather than to rely on the individual contract arrangements now employed by cellular carriers.

In addition, larger license areas may actually increase coordination problems. For example, a PCS licensee using cable systems as its backbone must negotiate with more cable companies if its license area is larger. If one or two cable companies decide to be "hold outs," they can charge a very high price; the PCS licensee will be forced to pay this price in order to complete its system.

Telesis strongly opposes national licenses for PCS, based upon the economic and innovation arguments set forth above. Enabling one or two providers to dictate the nationwide implementation of PCS would severely limit the technical and service innovation which would result from a multitude of players. This Commission proceeding has spurred an unprecedented number of experimental trials by over 100 firms, almost all of whom would be excluded in a national licensing scheme. The fact that smaller, less diverse European and Asian countries have created national licenses is not relevant here, since the United States is much larger, more prosperous, and more diverse than the countries with a national license approach. (California alone, if it were a separate country, would be ranked as one of the world's top ten economies.) One or two monopoly franchises in a billion-dollar business should not be awarded.

There is no support for the Commission's comment that nationwide U.S. licensees may be better able to compete in foreign markets. The track record of U.S. companies such as

Pacific Telesis International in winning national licenses overseas would indicate that strong technology and operations capabilities, combined with careful selection of local partners, are the more relevant criteria in global competitiveness.

Nor would the marketplace be served by licensing a combination of national and smaller serving areas in different spectrum blocks. The national competitor would then have a monopoly presence across markets which would give it an unfair advantage over local licenses. The cellular experience in Japan argues against such a combination. When competition was introduced to NTT's nationwide analog cellular system, the two regional licensees were handicapped in their ability to compete, resulting in a much slower development of the market. Thus, serving areas of licensees should be equal; the robust competition which exists between the two cellular carriers in each U.S. market today would not exist if their serving areas were not comparable.

In the NPRM, two concerns are raised about creating a large number of license areas. The first is that the consolidation which occurred in the cellular industry resulted in high transaction costs (NPRM Para. 56), which presumably could have been avoided if the "right" size license areas had been awarded in the first place. In fact, the costs noted in the NPRM reflect the value of the specific cellular systems on a per POP (population) basis. It is the transfer of the

license to the party which values it most highly which creates these costs. Whether there are more licenses with smaller values, or fewer licenses with higher values, the total value of the market does not change.

The second concern is that the large number of licenses initially assigned has delayed unnecessarily the assignment process for cellular, perhaps by several years. (NPRM Para. 56.) The issue of delays and paperwork burden on the Commission is a serious one, but one which could be managed economically by involving private businesses, as we discuss below, Section IV.D.

C. Millicom's Proposal Should Be Rejected

Millicom has proposed a three-tiered licensing plan which does not serve the Commission's PCS goals; Telesis strongly urges the Commission to reject it.

Millicom's national network scheme uses the credit card industry as an analogy. This model is misplaced, for three reasons. First, the model is an archaic one, based on the need for massive national networks to provide consistency in service. As computers move from proprietary systems to open, software-driven applications, computerized service industries are evolving; they began as highly concentrated but are now more competitive and diverse. The same changes are taking place in telecommunications technologies, so that previously noncompatible switches and systems can now communicate through the use of readily available software.

Second, VISA and other major credit card issuers do not own facilities or bill customers, as Millicom proposes to do: Third, there is uncertainty with respect to whether the credit card structure and practices are legal under the antitrust laws. See, e.g., SCFC ILC Inc. d/b/a Mountainwest Financial v. Visa USA, Civ. No. 91-4042 (D.C. Utah) 1992.

With regard to its Tier One, National Network Provider, Millicom would exclude from participation both manufacturers and, to a major extent, all existing telecommunications providers; in short, any company with experience, proficiency, and synergies would not be permitted to shape the national system. Only new players, who by definition have no experience with telecommunications technologies, operations or markets, would determine the signalling platform, data transport network, standardized billing platform and quality control of PCS for the nation! Such a result would be inimical to the Commission's interest in creating the most advanced PCS systems in the world. No one would benefit from such a policy except the very limited number of consortia players, who would have to reinvent the wheel rather than make use of existing strengths.

To justify the need for a national network operator, Millicom states that it would facilitate "coordination of technical standards." National licensees do not coordinate standards, they set them, de facto, based upon their singular vision of the wireless market. True coordination in

standard-setting takes place through industry coalitions where competing choices can be evaluated, compared, and agreed upon, with input from all. As discussed in Section VI.D. below, the Commission can facilitate coordination by requiring the industry to agree upon a standard prior to operating a PCS system. That result would be far preferable to handing over control of a potentially diverse and highly competitive market to a consortium with the ability and incentive to shape a national market in a way that maximizes its own economic value.

Other functions the Millicom national licensee would perform include a nationwide database and signalling platform and a billing clearinghouse. There is no need for centralizing such functions, which will be Intelligent Network functions. Intelligent Networks are being developed by LECs, IECs, and cellular companies, and will also be offered by stand-alone companies in conjunction with other technologies. These functions should be highly competitive pieces of the PCS architecture, with which PCS competitors can differentiate themselves and add features not available through other competitors.

A final role for the national network operator would be to negotiate intercompany interconnection and compensation arrangements with wireline companies. Again, such control and standardization are not in the best interests of an evolving PCS industry poised to serve a wide-ranging number of market needs. Interconnection is one more element of PCS architecture

that should be shaped to fit the particular design and application of a particular licensee. While PSTN interconnection rates and terms must be nondiscriminatory, individual PCS licenses should be free to negotiate for those network connections and compensation arrangements which serve their particular market vision.

At the regional level, Millicom would create 49 major trading areas, because they represent "a logical economic area of interest." As discussed above, Telesis believes that megalicenses crossing multiple metropolitan areas have minimal economies of scope and scale and undermine Commission goals. The role of this Tier Two player would be to provide such services as switching, database managements and billing services to the Tier Three licensees. The latter two services can be provided without a PCS license, and the first is likely to be offered in each smaller metro market anyway, thus limiting any economic advantage to this setup.

Millicom's proposed exclusion of current providers of telecommunications service providers from regional licensees is rife with the same flaws articulated elsewhere in this filing: it is inequitable, uneconomic and harmful to development of PCS.

Finally, Millicom proposes the creation of at least 25 local licenses to serve just 25% of the population or 30% of the land area in competition with each regional licensee. This proposal would be noncompetitive and difficult to enforce. The

Telesis proposal of three licensees in each of 487 areas is far superior, since it offers better opportunities for participation and thus will increase true diversity.

D. Licensing Process

The Commission has asked for comment on the licensing process. (NPRM Para. 82.) While market mechanisms such as auctions may well be desirable for many reasons, they are not currently permitted by law and Telesis will not further comment on the use of auctions at this time. Comparative hearings are traditional, but they have proven to be too slow and too expensive for both applicants and the Commission. Furthermore, since PCS will be a service that competes with two or three existing services in every market, it is less crucial that technical competence be shown; the market will require competence. Therefore, Telesis favors the remaining choice: the use of lotteries.

Lotteries should be structured so that a wide range of possible suppliers--ranging from small entrepreneurs to telecommunications giants--can participate. The fees charged should cover the costs of administration; ideally, they would vary with the size of the market. Such fees may be significant enough to discourage some speculators. Applications to participate in the lottery should be minimal but should require sufficient data to allow verification of conditions, e.g., a declaration that only one application had been filed per market, etc. Requiring more information, such as submission of

engineering documents and business plans, would dramatically increase costs and increase chances for delay. Only the winners' qualifications should be checked; winners would then have 30 days to show that they met all financial, legal, and technical requirements.

Telesis recognizes that this approach will result in a large number of applications; the Commission could use an outside firm that can handle the simple processing. This outside firm could be a major accounting firm or direct mail/marketing organization. Such businesses have the facilities and experience to process large amounts of paper quickly and efficiently. By using outside resources, the Commission should be able to accomplish licensing hundreds of license areas in months instead of years. Different entities could process different sections of the country simultaneously. Notarized statements could be required to determine that the Commission's steps were followed to the letter. The Commission would retain its required responsibilities to establish eligibility, qualifications to participate in the lottery, and compliance with the application requirements. The outside contractor's role would be wholly ministerial, with no encroachment upon the proper role of the Commission. Costs for the processing would be borne by license applications as part of their nonrefundable application fees. The Commission would, of course, make the final award.

Telesis recognizes that its proposal for a lottery with minimal qualifications for participants is different from the approach PacTel Paging has set forth in its comments on license processing issues in the 900 MHz band. The substantial differences between wideband and narrowband services were articulated in PacTel Paging's filing and warrant different Commission policies on many issues. This is indeed the case for lottery policies.

A critical difference between the wideband and narrowband services is the relative cost to benefit ratio of meeting the qualification hurdles. Because narrowband services have far lower economic value to their owners than wideband services, putting in place significant financial and engineering requirements is far more likely to weed out casual speculators. The higher costs of compliance (e.g., making a unique technical showing for a regional paging service) will represent a far greater percentage of total license costs, and only be justified by serious applicants with a reasonable chance of winning. In short, the qualifications are truly likely to deter speculation.

On the other hand, the potential value of a wideband PCS license limited by spectrum availability outweighs the cost of any potential application requirements, such as submitting transmitter site locations. No such Commission requirement will make a dent in the plethora of speculators. The more likely result is litigation over compliance, delays in license

awards, and more profits for the "application mills" in packaging applications in a way to meet any requirements set forth.

We support free transferability in the aftermarket and strict build-out requirements for all providers. Free transferability is the only procedure to permit economically efficient use of the scarce spectrum that the Commission will award. Strict build-out requirements will encourage rapid, widespread deployment of these new services. Any licensee that does not meet the requirements should lose its license; the contingent winner should then be given a reasonable opportunity to deploy its system.

V. SPECTRUM ISSUES

A. How Much Spectrum Should Be Awarded Each Licensee

We support 25 MHz per provider for each of the three new PCS providers within an area.

Provider A:	1850-1862.5/1930-1952.5;
Provider B:	1862.5-1875/1952.5-1965;
Provider C:	1875-1887.5/1965-1997.5;
Unlicensed services:	1910-1930 and
	1887.5-1910/1977.5-1990

These allocations are also shown in Attachment 2.

25 MHz is adequate to support the anticipated wireless demand, using digital technology. This is shown by the fact that cellular providers currently serve their customers with 25

MHz. When there are 6 providers instead of 2, 25 MHz will clearly suffice for each, if they use spectrum efficiently.

However, 25 MHz is only adequate, if it is clear. The Commission must recognize that the problems of spectrum sharing with incumbent fixed, private microwave users will prevent PCS deployment in some locations until incumbents are relocated.[13]

The LECs should be allowed to obtain any of these three licenses. There is no technical, economic, or public policy basis for a smaller allocation of spectrum for the LECs. As amount of spectrum decreases, capacity decreases and costs rise; thus, a PCS competitor with less spectrum than others would be severely disadvantaged. It would not be able to provide the same level of service or accommodate the same number of customers, and it would not be able to use spectrum as efficiently. Any spectrum reduction for LECs would be contrary to the principle that competitors should have equal opportunity and a level playing field. Handicapping certain competitors is not good regulatory policy.

The LEC infrastructure and network will be available for all PCS providers. The market should decide whether LECs can use their economies of scope to provide PCS services economically. It makes no sense to handicap a competitor,

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[13]Telesis recognizes that spectrum sharing is far less feasible with an allocation of 25 MHz per licensee. Therefore, a rapid transfer of microwave incumbents will be necessary for deployment of PCS under this scheme.

just because it may have a lower cost basis due to economies of scope and scale. Such an outcome would go against recent Commission policy on the danger of "asymmetric regulation."[14] See Hausman Affidavit, Para. 24.

It will not be necessary to allocate spectrum from these bands for backhaul links, because there are other radio bands and other media (e.g., fiber optics and copper) available for backhaul use.

B. Ample Spectrum Should Be Allocated For Nonlicensed Services

With the growth in mobile communications for voice and data, the Commission has recognized the need to bring new innovative technologies quickly to the marketplace. Previous licensing mechanisms have not gone far enough to allow entrepreneurial companies to enter the new markets. Thus, Telesis applauds the Commission's proposed allocation of 20 MHz in the center of the 1850-1990 MHz frequency band for use on a nonlicensed basis to enable many potential providers of new services and technologies to participate. The channelization scheme proposed for this part of the band seems adequate for both broadband users and narrowband users.

We also suggest an additional nonlicensed allocation of 45 MHz with a duplex split. Attachment 2 shows the proposed

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[14] Competition in the Interstate Interexchange Marketplace, CC Dkt. No. 90-132, Notice of Proposed Rulemaking, 5 FCC Rcd 2627, para. 99 (1990).

spectrum allocation for three licensed PCS operators, a 20 MHz nonlicensed band, and 45 MHz for nonlicensed service with a duplex split.

There are two potential nonlicensed uses for this duplex portion. First, the wireless Local Area Networks (LAN) industry might use the spectrum. Wireless Local Area Networks for connecting personal computers and work stations will have to compete with existing LAN products. Typically, existing LANs can achieve data rates up to 10 Mbits/second without difficulty. The new wireless LAN manufacturers should be afforded sufficient spectrum to allow the same data throughput in the office environment. Manufacturers of LAN equipment have indicated the need for over 100 MHz of spectrum in order to offer this type of service. This level of spectrum allocation seems prohibitive, but an amount in the order of 50 MHz seems a reasonable figure. Telesis thus suggests that a duplex allocation of 45 MHz be considered for this industry on a nonlicensed basis.

A second use of nonlicensed spectrum for which demand is strong and growing is wireless PBXs, which free people from the need to be at their desks or workstations in order to make and receive calls. Two requirements for these systems would support significant allocation of duplex spectrum.

First, in order for wireless PBXs to be successful, they must be installed and operated without the need for extensive, complex frequency planning between systems in

adjacent buildings or adjacent floors in a given building. Spread spectrum systems provide a simple, reliable architecture which can coexist with nearby systems without adversely impacting their performance. Spread spectrum systems may also be able to take advantage of inexpensive distributed antenna techniques for in-building coverage. As these systems require duplex frequencies, such an allocation would assure that a rich and diverse set of in-building services will be developed.

Second, the allocation of duplex frequencies for nonlicensed devices will facilitate interoperability between in-building and outdoor systems. Assuming a Common Air Interface for outdoor licensed systems and wireless PBX (see discussion below, Section VI.D.), customers will enjoy increased access options, and manufacturers will be able to achieve significant handset economies.

Telesis submits that, in light of these significant potential uses, the Commission should allocate 45 MHz for duplex nonlicensed use, in addition to the 20 MHz it suggests in Para. 43 of the NPRM.

However, an uncoordinated nonlicensed band will cause many problems with both the existing microwave users, as well as with adjacent PCS providers. We suggest a minimal license procedure that provides for a database with the identification and frequency of users. This will assist a fixed microwave user in investigating possible interference.

C. Limitations On Power And Antenna Height To Prevent Interference

The Commission has requested comment on antenna height and power limitations. (NPRM, Para. 126.) We discuss below three interference situations:

1) Interference from the PCS system to the existing microwave users.

2) Interference between co-located PCS systems using adjacent spectrum in the same geographic area.

3) Interference between PCS systems having the same spectral allocation in bordering geographic areas.

1. Interference From PCS Systems To The Existing Microwave Users

The Commission acknowledges that coordination between PCS systems and existing microwave users will be necessary. The question is whether restrictions on antenna height and transmit power would be useful in order to limit the possible interference from PCS systems. It has been shown[15] that transmit powers of 1mW ERP from antenna heights of 1.6 m can significantly degrade the performance of microwave links up to 8 km away. However, in the same area, transmissions of over 100 W ERP can be tolerated at a different frequency.

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[15]Telesis Technologies Laboratory Second Experimental License Progress Report, August, 1991.

From these facts, there seems little sense in limiting transmit ERP and antenna height for the protection of the existing users, since these limits would afford little or no protection. What is clear is that each PCS base station and coverage area needs to be coordinated, on a case by case basis, for the particular technology employed.

Telesis supports the Commission's view that some limitation on transmit power and antenna height would be useful to prevent PCS operators from using very high power transmitters on mountain tops to build spectrally inefficient single cell PCS systems. Thus, Telesis supports the proposal of restricting PCS operation to antenna heights below 600 meters and ERP to below 1000W.

2. Interference Between Co-Located PCS Systems

In order to prevent interference between co-located PCS systems, some measure of specificity is required for co-existence. At a minimum, out-of-band spurious emission limits should be specified by the interested parties. This will avoid the degradation of PCS systems by adjacent PCS systems operating with sub-optimal equipment.

3. Interference Between PCS Systems At Border Areas

Some level of specification should be used to restrict radio emissions outside of the licensing area of a PCS operator in order to avoid interference between PCS systems using the same frequency allocations. The Commission indicated that a

signal strength figure of 47 dBU should be employed. This figure seems adequate.

VI. REGULATORY ISSUES

A. Common Carriage/Private Carriage

The distinctions between private and common carrier services have been eroded over time as regulatory requirements have given way to market requirements. Historically, private carriers were limited to providing service to "eligible users" who used the service for business and professional purposes. 47 U.S.C. §153 (gg). Over the years, the Commission expanded the definition of "eligible users" to include essentially everyone. Also, in the past private carriers were limited in how they interconnected to the public switched telephone network. These rules have been greatly liberalized. Finally, the waivers granted to Fleet Call for provision of its Enhanced Specialized Mobile Radio service further blurred the distinction between private and common carriage. Fleet Call's proposal involved a dramatic departure from traditional SMR services (high-power, wide-area, dispatch-oriented private carrier services with only "incidental" interconnection to the PSTN). Fleet Call, in contrast, is a cellular look-alike with multiple low-power cells designed for frequency re-use and expanded interconnection to unaffiliated users.

In the NPRM, the Commission has requested comment on whether PCS providers should be regarded as common carriers or private carriers. (NPRM, Para. 95) We believe that, under the

Communications Act (47 U.S.C. §153(h)), licensed PCS providers should be classified as common carriers, because they will be offering service to the public and will serve all potential users indiferently, rather than serving a particular group of private users. National Ass'n of Regulatory Utility Com'rs v. FCC, 525 F.2d 630, 642-43 (1976). We do not believe that it would be appropriate under the Communications Act for the Commission to further expand the definition of private land mobile service to include PCS.

PCS providers will be similar to cellular carriers, which are classified as common carriers and should have parity with them. This parity is supported by the Commission's proposed requirement (NPRM, para. 99) that PCS get mandatory access to the PSTN, just as cellular has. The Commission did not want to give one service an unfair advantage in interconnection; the same should be true for regulatory status.

Competitive services must be regulated in a symmetric fashion to prevent inequality. Fleet Call, which is a competitor of cellular services and a future competitor of PCS, is considered a private carrier. We believe this puts Fleet Call at an unfair competitive advantage, and we suggest that the Commission take steps to remedy the situation. The Commission should institute a rulemaking proceeding on this subject; this proceeding should consider whether all of these competitive services should be classified as common carriers or private carriers. Meanwhile, the Commission should consider

such "partial fixes" as the Telocator petition to permit cellular carriers to provide private carrier services, as long as their common carrier obligations are met.

B. State Preemption

PCS will compete initially with cellular and paging services, which may be regulated by the states, and eventually will compete with local telephone service, also regulated by the states. We do not believe there is any distinguishing factor which the Commission could use to preempt PCS from state regulation while these other services remain regulated. (Louisiana Public Service Comm'n v. FCC, 476 U.S. 355, 90 L.Ed.2d 369, 385 (1986).) Therefore, we do not favor preemption of the states, except as to entry (as was done in the case of cellular).

As previously noted, it is important that competitors be treated equally. Since the services with which PCS will compete are regulated by the states, PCS should also be regulated by the states. To preempt the states from regulating PCS would give PCS an unfair advantage over its competitors. PCS providers would be able to operate without the complexities of state regulation, while their competitors would need to comply with state regulatory requirements.

Instead, state regulation should be continued, but the eventual goal should be one of deregulation, by both the Commission and the states. Elimination of regulation is not an impossible goal. Regulation will not be needed when there are

six competing wireless services. As previously discussed, we suggest that the Commission institute a rulemaking procedure on this subject at the appropriate time. Changes in the Communications Act might be necessary to establish clearly the Commission's power to preempt state regulation at that time. Since PCS will compete with LECs, it would be necessary to preempt state regulation of the LECs as well; as previously stated, regulation should be equally applicable to all competitors.

C. Interconnection Issues

All PCS providers, whether designated as private or common carriers, should receive interconnection equal in quality and price for any given configuration. Appropriate regulatory safeguards should be in place to protect LEC ratepayers where LECs also provide retail PCS. PCS providers should have the option of obtaining switching, data base access, access management, radio controllers and/or ports in support of PCS services from the LECs. Commission policies must be flexible enough to recognize the benefits of using LEC infrastructures and encourage the LECs to offer various options.